Abstract

Based on the principles of connectivism, the paper at hand demonstrates how a student centred, output oriented learning activity can be developed, using an example of an exercise designed for two MOOCs (Massive open online courses) and their application and modification used at undergraduate level for two intercultural management classes in Graz, Austria and in New-Delhi, India. In total, more than 300 students participated on undergraduate levels in the developed learning activities in the years 2015 and 2016.

The learning activity uses advertisements of different companies, which can be easily found on YouTube as learning material. Participating students in Austria and India are supposed to make their own choice of advertisements and to analyse them according to the following questions: a) How does your group understand the advertisement and how does it work for you? b) How do you think will the other side understand the same advertisements, will there be any difference to your own understanding? This analysis is done in written form. As a second step, the students get the opportunity to ask the other side for their opinion using self-developed questions. Finally, the students analyse the difference between their own opinion, their expectations and the answers of the other side. Choosing the advertisement to use and the questions and differences to address is a central element in this exercise. The students learn to understand, that an answer to a specific question might correspond to their expectations now for one specific contact group, but might be different tomorrow or for someone else. In this student based activity, the students design most of their own learning experience which enables them to perceive the similarities and differences between their views, their expectations and the reaction of the other side on a very personal level. They learn that as stated by Stephen Covey, we see the world, not as it is, but as we are or, as we are conditioned to see it. The output orientation can be clearly seen in the process of grading, as the grade is not based on any repetition of input from the professor but on the analysis of the different viewpoints.

The paper clearly relates the learning experience from these exercises to Connectivism, trying to demonstrate its use for a modern teaching environment. It shows that learning is a process of connecting information sources (or nodes) and that decision making and the analysis of the connected processes is a very relevant element of learning.

Keywords: Innovation, technology, research projects.

1 INTRODUCTION

Following Arbesman [1], we can note that the creation of knowledge and with it the de-evaluation of older paradigms is taking up speed, if we consider the half-time of knowledge, akin to how we can look at radiation, “it turns out knowledge is a lot like radioactive atoms because it decays over time [...] researchers have found that half of the knowledge was overturned in about 45 years.” According to Siemens [2] the amount of knowledge in the world “has doubled in the past 10 years and is doubling every 18 months;” Educational institutions all over the world are facing a race. Educators need to teach students knowledge, that should not already be void when they leave the university. “We need to constantly re-educate ourselves, avoid memorization, and start looking up facts to make sure that we have the most updated knowledge. We need to incorporate an informational humility into our lives.” [1]

In his milestone article “Connectivism: A Learning Theory for the Digital Age” [3] George Siemens analyses significant trends in learning, which should be considered in a modern teaching environment:
The variety of fields in which learned knowledge will be applied is growing. Informal learning is of growing importance. Learning is a lifelong process. The organization and the individual are both learning organisms. Technology can support many learning processes. Know-where, the understanding of where to find knowledge is essential.

With lecturing, which is still a prevalent teaching style in many Universities, it has become very difficult to meet the above trends. As a result, the educational landscape needs to change and educators all over the world to rethink their teaching concepts and try to offer teaching, which is student-centred and output oriented.

Accepting the fact, that competences acquired in a classroom will be applied differently by different students in course of their future careers, leads to the logical conclusion that more than one learning path might be required and more than one result might be correct. “Student-centred learning is a broad teaching approach that encompasses replacing lectures with active learning, integrating self-paced learning programs and/or cooperative group situations, ultimately holding the student responsible for his own advances in education.” allowing the students to shape their own learning experience. The educator’s role is more and more changing from lecturer to moderator or coach.

Output oriented teaching refers to a teaching style which clearly puts the competence of students, their ability to actually do something successfully, not just the amount of knowledge they have acquired or are able to reproduce in the centre of attention.

Universities are usually large entities which are slow to change, or as Gilly Salmon would put it: “Academic staff are naturally reluctant to change their methods of teaching and learning (and move from stage one—flapping—to stage two—flying) without a deep understanding of why and how and what the impact will be in terms of quality and any resultant benefits.” While for many educators it might be easy to change the one or other element of their teaching, it would require massive syllabus and curriculum changes to fully adopt to a new learning paradigm.

The paper at hand has the aim to analyse how an exercise, which might only constitute one of many teaching methods in a course, could be set-up considering connectivist principles in order to allow educators to consider the effect of these principles on a small scale. After discussing the basic principles and setting up a framework for doing so, an example is presented to illustrate how the methodology might work.

1.1 Connectivist principles

Following the argumentation of Downes, we can add a third type of knowledge to the two types, namely qualitative and quantitative knowledge, which we already know and use. Downes calls it connectivist knowledge. This type of knowledge can be described as distributed, it is spread across more than one entity. The connection between two entities and more specifically the interaction between those two is what can be considered a new kind of knowledge. The knowledge of the interaction. “If Janet votes a certain way because I told her to, an interaction has taken place and a connection has been established. The knowledge thus observed consists not in how Janet and I will vote, nor in how many of us will vote, but rather, in the observation that there is this type of connection between myself and Janet.”

Learning, in a connectivist sense, is “a process that occurs within nebulous environments of shifting core elements – not entirely under the control of the individual. Learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database), is focused on connecting specialized information sets, and the connections that enable us to learn more are more important than our current state of knowing. Connectivism is driven by the understanding that decisions are based on rapidly altering foundations. New information is continually being acquired. The ability to draw distinctions between important and unimportant information is vital. The ability to recognize when new information alters the landscape based on decisions made yesterday is also critical.”

Looking at learning this way, we discover that decision-making in itself is a learning process. The information we have access to the nodes which we connect to tend to shift over time. As our information base is shifting, an answer, which was right yesterday, might proof to be wrong tomorrow. Learning how to handle the flow of information is a critical success factor for learning. Our learning is also very much dependent on what we already believe. We connect new nodes of information to our existing network. Following Downes we can formulate: “In the same way, the observation of sets of connections between entities depends a great deal on what we already believe. That is why we see
swans in clouds or faces on Mars when, manifestly, there are none. We have brought our prior knowledge of connected entities to bear on our interpretations of these phenomena.

2 METHODOLOGY

According to Downes [10] connective knowledge networks possess four traits: diversity, autonomy, interactivity and openness. “First, diversity. Did the process involve the widest possible spectrum of points of view? […] Second, and related, autonomy. Were the individual knowers contributing to the interaction of their own accord, according to their own knowledge, values and decisions […]? Third, interactivity. Is the knowledge being produced, the product of an interaction between the members […]? Fourth, and again related, openness. Is there a mechanism that allows a given perspective to be entered into the system, to be heard and interacted with by others?”

Siemens [3] defined eight core principles which define connectivist learning, they have been included in the table below in the left column.

<table>
<thead>
<tr>
<th>Connectivist principle</th>
<th>Implications for teaching</th>
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<tbody>
<tr>
<td>One: Learning and knowledge rests in diversity of opinions.</td>
<td>Learning is facilitated by providing various connection points (nodes) for students, which allow to explore the topic from different angles. More than one solution can be applied to a problem (providing nodes).</td>
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<td>Two: Learning is a process of connecting specialized nodes or information sources.</td>
<td>The exercise should make use of various interdisciplinary information sources and lead to the development of “Know where” and “Know who.” (building connections). These information sources can be people, books, databases, social networks etc.</td>
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<td>Three: Learning may reside in non-human appliances.</td>
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<td>Four: Capacity to know more is more critical than what is currently known</td>
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<td>Five: Ability to see connections between fields, ideas, and concepts is a core skill.</td>
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<td>Six: Nurturing and maintaining connections is needed to facilitate continual learning.</td>
<td>The exercise should involve current topics and should clearly indicate how the acquired competences can be applied to upcoming problems. It should clarify how deeper understanding can be further developed. The competence of students is the aim, not the acquisition of static knowledge (output orientation as opposed to pure knowledge acquisition).</td>
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<td>Seven: Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning</td>
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<tr>
<td>Eight: Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision.</td>
<td>Students make decisions about their own learning pathways. Lenses and filters which are involved in the learning process are actively addressed and become obvious. The teacher is taking the role of a moderator (student centred).</td>
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Building exercises, which take these principles correctly into account requires to translate them into practical applicable principles, which can be used for design. The implications for practical teaching have been placed in the right column.

The current paper suggests a possible, but for sure not the only available way to interpret the above principles, leading to four main suggestions. If an exercise should incorporate connectivist principles, it should, from this point of view (1) provide multiple nodes or connection points for students, (2) support the interactive acquisition and exchange of Knowledge, (3) involve current topics and clearly indicate pathways for deepening that knowledge in the future and (4) allow students to make their own decisions and choose their own learning path.
2.1 Example Exercises

Experiencing cultural differences and making the cultural lens, which we automatically apply on any perceptions, visible, is a central part of learning about intercultural communication and management. In a Bachelor course on Intercultural Management, different methodologies of how to assess and interpret cultural differences are discussed in class.

To support this more or less traditional teaching approach, based on lectures and audio-visual resources, an exercise has been developed. The students had the task to find ads from any source available to them, of which they believed that they would be interpreted differently in India. The first step was to analyse the ads according to the own viewpoint. Additionally, the students tried to predict how their Indian colleagues would understand the ad. The resulting reflection was recorded in writing. In a second step, the students were asked to send the ads and a number of self-developed questions to their colleagues in India. These questions had the aim to learn about the real reaction of the Indian side. The resulting answers were compared with the own predictions and discussed in a short paper. In total more than 300 students participated in 2015 and 2016 in Austria and India.

A variant of this exercise was also provided in scope of two MOOCs, the term is an abbreviation for “Massive Open Online Courses”. “Massive” stands for a near limitless number of learners; “open” defines the content as being accessible for the public, no one is excluded; “online” describes the web-based nature and “course” finally defines it is a structured learning method for a specific topic, including learning aims. [11] We offered a MOOC with the name „Competences for Global Collaboration – cope14” in 2014, which was repeated 2015 as „cope15“. This MOOC was mainly aimed at including students and staff from FH JOANNEUM and Partner universities, but was also open for other participants from all over the world.

As one of the introduction elements of the MOOC participants received the task to find advertisements, which they considered typical for their own culture and to present them, together with their own interpretation to the community. The participants had the task to discuss presented ads and to find and state differences in perception. The students use diverse channels (e.g. different social media), which were suggested or chosen by the participants themselves. The resulting media galleria and connected discussion topics included, in total, more than 600 ads, leading to a broad learning experience. No single facilitator can come up with such a broad information base and it can be safely assumed that no student used all of these available resources, instead selecting the learning path most suitable to him or her.

2.2 Recommendations applied

The table below analyses how the recommendations, which have been discussed above have been applied in the two example exercises. This serves as a demonstration that connectivist principles can be used in classic classroom settings as well as in MOOCs. Whole courses or single exercises can be relatively easily adapted.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Realisation</th>
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<tr>
<td>One</td>
<td>Student are free to use any existing information source for information including existing electronic sources like blogs or social media. There is no single “best” choice and a nearly unlimited amount of possible paths.</td>
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<tr>
<td>Two</td>
<td>As the students are required to form their own opinion on which elements could be seen differently in the relevant cultures, they need to do research. In scope of the exercises they connect with people, who provide their own opinions and viewpoints. They learn about how to verify their theories and how to ask the right questions.</td>
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Table 2. Application of Recommendations
Three

The exercise should involve current topics and should clearly indicate how the acquired competences can be applied to upcoming problems. It should clarify how deeper understanding can be further developed. The competence of students is the aim, not the acquisition of static knowledge (output orientation).

The students learn, by applying the theories they learned on real world situations. They understand how these theories interact with reality and how they can be further developed. By providing an analysis of the three viewpoints, they connect the provided nodes with their existing knowledge.

Four

Students make decisions about their own learning pathways. Lenses and filters which are involved in the learning process are actively addressed and become obvious. The teacher is taking the role of a moderator (student centred).

The students make their own choices about nearly every element of the learning process, including the selection of their main topic (by choosing the ad) and by designing the interaction (by asking concrete questions to their colleagues).

Looking at the exercise according to [10] principles, we find that the traits of diversity, autonomy, interactivity and openness are reflected as well.

3 EXAMPLE RESULTS

The resulting content was so large and diverse, that it can be safely assumed, that no single lecturer would have had the chance to produce a similar learning environment. Through the answers from students from different cultures and fields of study many differences in perceptions of these ads became obvious.

One example from the Bachelor course would be the analysis of the advertisement “The Exorcist”, which shows a Catholic Priest, who encounters a young woman, who shows all signs of possession. She is even floating close to the ceiling. In the next scene the camera is slowly sweeping up to the next floor, were an older woman is vacuuming the carpet. It becomes obvious that the floating woman is following the movements of the vacuum cleaner. The students noted the following: “We were quite unsure, whether the concept of a devil does even exist within the Indian Culture, or within the Hindu Religion. Even if it is a well-known concept in India, we wanted to know, if fighting the Devil by exorcism was a thing that people from the Indian culture knew, and what they were thinking about it.”

After their own analysis, they presented the video to their Indian colleagues, who answered: “In our Indian culture the concept of devil is present but we don’t use it in day to day interactions. Devil is used in a negative connotation so we generally do not link any product with the characteristics of the devil and here devil is used to refer dirt. So anything which is unclean is being pulled by the vacuum cleaner as the girl in the advertisement is also unclean (possessed) she is being pulled by the vacuum cleaner.” [12]

Another example would be the “Dare to be tender” spot from Milka. The spot introduces a cow which has, besides being lilac, a very special ability: to nudge to be tender. The students reported: “We expected our Indian colleagues to be really mad about this spot. Even though the Milka cow doesn’t act disrespectful in any way and just tries to bring people together, the fact that the company uses a cow for their ad would probably be seen as shocking to a culture that worships cows. But the Indian students shared their opinion with us in an unexpected way. Because it’s a German ad, translation was required and then they were able to connect. The commercial doesn’t offend them in any way, although the cow is holy in Indian culture. Actually they pointed out that using a cow in Milka advertisement is quite fascinating and that it would attract the target audience and could be broadcasted in India.”

The exercise in the MOOCs also produced interesting results. In one example the students chose an advertisement from Almdudler (2012), a popular soft drink, in which an obviously German tourist is hiking and somewhere in the alps shouts the – at least in Austria – well know slogan “If they don’t have Almdudler, I will return home!”, the echo surprisingly answers with “Pfiat di!”, which, in Austrian dialect means – in a friendly way – bye, bye.

This video cannot be easily understood by persons, which are not from Austria or Germany. In the discussion about this video many different perspectives and opinions came up. Discussed topics were: the value of regional references in an advertisement, the relation between Austrians and Germans, the creation of simple and easy to remember messages or political correctness (and incorrectness). The discussion of the different topics happens in different platforms and media and is not always visible for
the facilitator. Interestingly, very few perceptions or opinions, which might not have been well reflected or thought through when first mentioned remain unopposed, even without the facilitator intervening. [12]

4 CONCLUSIONS

Referring back to Gilly Salmons [9] metaphor of flapping wings before flying, the examples illustrated above, show that using simple methods and rules, it is possible to introduce connectivist principles successfully in the teaching process without the need to completely overthrow the existing learning paradigm.

By applying four simple principles, (1) providing nodes, (2) building connections, (3) output orientation and (4) student centred learning the connectivist learning paradigm can actively be used to provide a different, perhaps enhanced, learning experience to students.

By analysing the different levels of perception involved the students learn to understand, that an answer to a specific question might correspond to their expectations now and for one very specific target group but might be different tomorrow or for someone else. The students design most of their own learning experience which enables them to perceive the similarities and differences between their views, their expectations and the reaction of the other side on a very personal level. The students reached these defined learning outcomes on very different routes and have, in the process probably learned very different things, many of which are not obvious to the teacher. They follow their own learning pathways and unique networks. The current student population, being digital natives and most of the time (if not always) being connected to their digital community excels in using the provided nodes for their own learning success and are quick to enlarge their own networks.

The assessment of such exercises can only be done by assessing the quality of the produced output (e.g. the quality of the short papers produced in the above Bachelor course example), not by checking rote learning, even though also those elements, which have been taught in class by lecturing and audio-visual material are connected to the connectivist learning experience as nodes, which anchors them more firmly in the students’ knowledge base. Elsewise they would probably have been forgotten fast.

The demonstrated principles can be used in very different fields of study, to explore very different concepts. The author has used the same principles very successfully to teach the application of statistical methods. The mentioned principles are not restricted to “soft” topics. Of course certain adaptions are necessary according to the field of study. Nodes and connections can be very different, but very often the Internet, social media and existing groups and networks provide a good source of nodes to connect to.

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REFERENCES


